

# Human-Centered Design of Adaptive Planning Tools for Airport Surface Management, Phase I

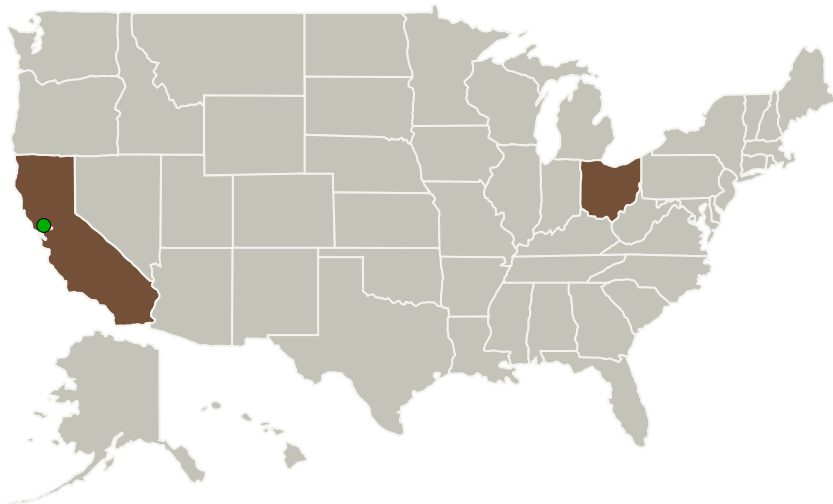
Completed Technology Project (2011 - 2011)



## Project Introduction

Two critical requirements for an effective airport surface management system are: \ The need to adapt plans both strategically and tactically because of time-varying uncertainty. \ The need to support coordination and collaboration among a number of different individuals, including controllers in the ATC Tower (ATCT), traffic managers in the ATCT, ARTCCs, TRACONs and ATCSCC, dispatchers and air traffic control coordinators at Flight Operations Centers, and ramp controllers/supervisors at airports. NASA has developed algorithms to support such strategic and tactical adaptive planning for airport surface management. This proposal seeks to complement and support this line of research and development through the definition of roles, responsibilities and procedures for coordination and collaboration among these individuals as they adapt airport departure queues at spots and runways to deal with evolving conditions. It further seeks to design and complete formative evaluations for interface designs that make use of NASA's adaptive planning algorithms.

## Primary U.S. Work Locations and Key Partners



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## Table of Contents

Project Introduction	1
Primary U.S. Work Locations and Key Partners	1
Project Transitions	2
Organizational Responsibility	2
Project Management	2
Technology Maturity (TRL)	2
Technology Areas	3
Target Destinations	3

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Organizations Performing Work	Role	Type	Location
Cognitive Systems Engineering, Inc.	Lead Organization	Industry	Ostrander, Ohio
● Ames Research Center(ARC)	Supporting Organization	NASA Center	Moffett Field, California

Primary U.S. Work Locations	
California	Ohio

## Project Transitions

▶ **February 2011:** Project Start

✓ **September 2011:** Closed out

## Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/138600>)

## Organizational Responsibility

## Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

## Lead Organization:

Cognitive Systems Engineering, Inc.

## Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

## Project Management

## Program Director:

Jason L Kessler

## Program Manager:

Carlos Torrez

## Principal Investigator:

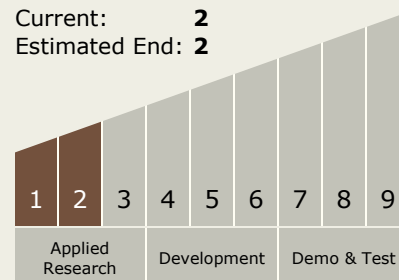
Amy Spencer

## Technology Maturity (TRL)

Start: **1**

Current: **2**

Estimated End: **2**



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## Technology Areas

### Primary:

- TX16 Air Traffic Management and Range Tracking Systems
  - └ TX16.3 Traffic Management Concepts

## Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System